

AMENDMENTS TO THE CLAIMS

1. (currently amended) An electronic watermark system for use in inserting an electronic watermark into a digital image, comprising:

measuring means for measuring a data amount of the digital image per unit time to produce a detection signal representative of a result of measurement; and

control means for controlling a degree of insertion strength of the electronic watermark with reference to the data amount of the digital image per unit time by increasing the degree of the insertion strength of the electronic watermark when a data amount of the electronic watermark is decreased, and by lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is increased.

2. (original) An electronic watermark system as claimed in claim 1, wherein the control means comprises:

a judging portion for judging the data amount of the digital image to produce a judgment result signal;

the electronic watermark system further comprising an insertion portion for inserting the electronic watermark by adjusting the degree of insertion strength of the electronic watermark in response to the judgment result signal.

3. (previously presented) An electronic watermark system as claimed in claim 2, further comprising:

a preprocessing portion which produces a sequence of DCT coefficients based on the digital image;

the judging portion judging the data amount from the DCT coefficients.

4. (previously presented) An electronic watermark system as claimed in claim 2, further comprising:

a preprocessing portion which produces a sequence of bits based on the digital image;

the judging portion judging the data amount from a bit rate of the bit sequence.

5. (original) An electronic watermark system as claimed in claim 1, wherein the digital image is a sequence of encoded data encoded in accordance with the MPEG coding.

6. (currently amended) A method of inserting an electronic watermark into a digital image, comprising the steps of:

measuring a data amount of the digital image per unit time to produce a measurement result signal representative of a measurement result; and

controlling a degree of insertion strength of the electronic watermark in response to the measurement result signal to insert, into the digital image, the electronic watermark ~~adjusted by the degree of insertion strength~~ by increasing the degree of the insertion strength of the electronic watermark when a data amount of the electronic watermark is decreased, and by lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is increased.

7. (original) A method as claimed in claim 6, wherein the controlling step comprises the steps of:

judging the data amount of the digital image with reference to the measurement result signal;

adjusting the degree of insertion strength of the electronic watermark to produce an adjusted watermark; and

inserting the adjusted watermark into the digital image.

8. (original) A method as claimed in claim 7, wherein the judging step judges the data amount of the digital image with reference to the number of DCT coefficients generated by a preprocessing portion.

9. (original) A method as claimed in claim 7, wherein the judging step judges the data amount of the digital image with reference to a bit rate of a bit sequence generated by a preprocessing portion.

10. (original) A method as claimed in claim 7, wherein the digital image is a sequence of encoded data coded by the MPEG CODING.

11. (currently amended) A method of inserting an electronic watermark into a digital image, comprising the steps of:

detecting a data amount of the digital image per unit time; and
adjusting a degree of insertion strength of the electronic watermark on the basis of the data amount detected by increasing the degree of the insertion strength of the electronic watermark when a data amount of the electronic watermark is decreased, and by lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is increased.

12. (original) A method as claimed in claim 11, further comprising the step of: preprocessing the digital image into a stream of DCT coefficients.

13. (original) A method as claimed in claim 12, wherein the detecting step comprises the steps of:
measuring the data amount per unit time from the DCT coefficient stream; and
controlling the degree of insertion strength with reference to the measured data amount per unit time.

14. (original) A method as claimed in claim 11, wherein the detecting step comprises the steps of:

measuring a bit rate of the digital image to obtain the data amount of per unit time; and

controlling the degree of insertion strength with reference to the measured bit rate.

15. (currently amended) An electronic watermark system for use in inserting an electronic watermark into a digital image, the system comprising:

a measuring unit that measures an amount of data per a unit of time of the digital image to produce a detection signal; and

a control unit that controls a degree of insertion strength of the electronic watermark with reference to the amount of data per a unit of time of the digital image by increasing the degree of the insertion strength of the electronic watermark when a data amount of the electronic watermark is decreased, and by lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is increased.

16. (previously presented) The electronic watermark system as claimed in claim 15, wherein the control unit comprises:

a judging portion that judges the amount of data of the digital image to produce a judgment result signal; and

the electronic watermark system further comprises an insertion portion operable to insert the electronic watermark by adjusting the degree of insertion strength of the electronic watermark in response to the judgment result signal.

17. (previously presented) The electronic watermark system as claimed in claim 16, further comprising:

a preprocessing portion which produces a sequence of DCT coefficients based on the digital image;

the judging portion judging the amount of data from the DCT coefficients to produce the judgment result signal.

18. (previously presented) The electronic watermark system as claimed in claim 16, further comprising:

a preprocessing portion which produces a sequence of bits based on the digital image;

the judging portion judging the amount of data from a bit rate of the sequence of bits.

19. (previously presented) The electronic watermark system as claimed in claim 15, wherein the digital image is encoded in accordance with an MPEG coding.

20. (new) The electronic watermark system as claimed in claim 1, wherein the control means comprises:

a detecting portion for detecting whether the data amount of the electronic watermark has increased or decreased; and

a control portion for controlling the degree of the insertion strength of the electronic watermark by increasing the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being decreased, and lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being increased.

21. (new) The method as claimed in claim 6, wherein the controlling step comprises the steps of:

detecting whether the data amount of the electronic watermark has increased or decreased; and

controlling the degree of the insertion strength of the electronic watermark by increasing the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being decreased, and lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being increased.

22. (new) The method as claimed in claim 11, wherein the adjusting step comprises the steps of:

detecting whether the data amount of the electronic watermark has increased or decreased; and

controlling the degree of the insertion strength of the electronic watermark by increasing the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being decreased, and lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being increased.

23. (new) The electronic watermark system as claimed in claim 15, wherein the control unit comprises:

a detecting portion for detecting whether the data amount of the electronic watermark has increased or decreased; and

a control portion for controlling the degree of the insertion strength of the electronic watermark by increasing the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being

decreased, and lowering the degree of the insertion strength of the electronic watermark when the data amount of the electronic watermark is detected as being increased.